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Limonium korakonisicum (Plumbaginaceae), a new species from Zakynthos Island (Ionian Islands, Greece)

ANNA-THALASSINI VALLI[1,2] & REA ARTELARI[1]*

[1]*Botanical Institute, Section of Plant Biology, Department of Biology, University of Patras, GR 265 00 Patras, Greece; e-mail: artelari@upatras.gr*

[2]*Agricultural University of Athens, Department of Crop Science, Laboratoty of Systematic Botany, Iera Odos 75, 11855 Athens, Greece.*

** author for correspondence*

Abstract

Limonium korakonisicum (Plumbaginaceae), a new species from Zakynthos Island (Ionian Islands, Greece), is described and illustrated from the only known population (locality Korakonisi) located in the southwestern coast of the island. The hexaploid chromosome number (2n=6x=51), the karyotype and the self-incompatible pollen-stigma combination A ('A'pollen and 'Cob' stigma), support that *L. korakonisicum* is an apomictic taxon originated through hybridization. This new taxon is related to the polyploid apomictic *Limonium* species which are prevalent in the Aegean area and especially to the recently described Cytherian endemic *L. spreitzenhoferi* Erben & Brullo. The morphological differences of *L. korakonisicum* from *L. spreitzenhoferi* as well as from the sexual diploid endemic *L. phitosianum*, which coexists at the same locality, are discussed. Data on the ecology and conservation status of the new species are also given.

Key words: Apomictic, breeding systems, endemic, Greek flora, Ionian Islands, karyology, taxonomy

Introduction

Limonium Miller (1754: 1328) is the largest and the most widespread genus of the Plumbaginaceae family including 400−500 species (Palacios & Gonzáles-Candelas 1997, Aparicio 2005, Brullo & Erben in press). The center of diversity is the Mediterranean basin (Cowan *et al.* 1998, Lledó *et al.* 2003, Palacios *et al.* 2000). The high taxonomic diversity and complexity of *Limonium* in the Mediterranean area is mainly due to its reproductive behaviour, i.e. the occurrence of both sexual and apomictic reproduction, as well as to the frequent occurrence of hybridization and polyploidy (Georgakopoulou *et al*. 2006). Thus, species delimitation in the genus is often a difficult task (Richards *et al*. 1996). This has as consequence the formation of numerous "microspecies" with local distribution.

In Greece, especially in the Aegean area, where a great number of islands and islets occurs, *Limonium* is represented by an high number of species. During the last 15 years, several taxonomic studies were published, increasing the number of endemic species in Greece (e.g. Artelari & Kamari 2000, Brullo & Guarino 2000, Crespo & Pena-Martín 2013). Dimopoulos *et al.* (2013), based in a recent paper of Brullo & Erben (in press), report 87 *Limonium* species most of them (79 species, 90.8%) endemic to Greece.

According to our data so far, in the Ionian Islands and the western coasts of the Greek mainland sexual diploid endemic species with 2n=18 are frequent, having the easternmost limit of their distribution range in the Messenian Mani (Kardamili) of South Peloponnisos (Artelari 1984a,b, Artelari & Kamari 1986, 1995, 2000) (Fig. 1). On the contrary, in the Aegean area and the eastern coasts of the Greek mainland polyploid apomictic *Limonium* species mainly occur (Artelari 1989a, 1989b, 1989c, 1992, Artelari & Georgiou 1999, 2000, 2003, Crespo & Pena-Martín 2013) having chromosome numbers with higher ploidy levels (pentaploid and hexaploid) than those known from the western and central Mediterranean taxa (Brullo & Pavone 1981, Arrigoni & Diana 1993, Erben 1993, Rosselló *et al.* 1994, 1998, Mayer 1995, Sáez *et al.* 1998a, 1998b, Sáez & Rosselló 1999).

Four species of *Limonium* were known to occur in the island of Zakynthos: *L. phitosianum* R.Artelari (1984b: 430) and *L. zacynthium* R.Artelari (1984b: 429), exclusively endemic to the island, *L. brevipetiolatum* R.Artelari & Erben (1986: 507) endemic to W-Greece (Kerkyra, Lefkada, Kefalonia, Zakynthos, and W coast of Peloponnisos), and *L.*

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